



Dart Aerospace Ltd.
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K6A 1K7
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D350-636-016
Job Sheet 182678



Part No: D350-636-016

Job Qty: 1 ea

Part Name: Skidtube RH, Run-on Landing Wearplates, DART(Apical) Cylind./Aerazur Float Comp.



Part Weight: 0 lbs

Status: Scheduled

Priority: Medium

Job Created: 8/29/18

Job Tracking No:

Due Date: 9/28/18

Created By: Marie Lajeunesse

Type: Stock

Description:

Note: DWG REV B SHEETS 1,2,5,9 IPP rev:A 10.09.28 new issue DD ver:EC IPP Rev:B 11.04.14 ecn11-553 DD ver:EC IPP Rev:C 11.10.18 as per NCR 11-906 DD ver:EC IPP REV:D 13.08.28 PER ECN13-594 DD VERF:JLM

Ship Via:

7025

Bill of Materials

Job Routing

Op No	Operation	Qty	Start Date	Due Date	Standard		Workcenter/Supplier		Sign-off
					Setup hrs	Run Hrs	Workcenter / Supplier	Lead Time	
90	Start up Operation	1 Ea		9/28/18	0.00	0.00	Start Up Skidtubes-1		MLC
110	Skidtubes	1 pcs		9/28/18	0.00	4.78	Skidtubes-1		MLC DAS J.Y
120	QC	1 pcs		9/28/18	0.00	0.00	QC10		38 DAS
130	QC	1 pcs		9/28/18	0.00	0.00	QC5		9-89 38
140	HandFinish	1 pcs		9/28/18	0.00	0.98	HandFinish1		D.R 18/09/26
150	QC	1 pcs		9/28/18	0.00	0.00	QC7-2		MLC
160	Skidtubes	1 pcs		9/28/18	0.00	4.78	Skidtubes-1		MLC DAS
170	QC	1 pcs		9/28/18	0.00	0.00	QC10		38 DAS
180	QC	1 pcs		9/28/18	0.00	0.00	QC5		9-89 38
190	HandFinish	1 pcs		9/28/18	0.00	0.98	HandFinish2		D.R 18/11/12
200	SprayPaint	1 pcs		9/28/18	0.00	0.61	Spray Paint	Rec'd	NOV 15 2018
210	QC	1 pcs		9/28/18	0.00	0.00	QC14		MLC 12-11-15
230	HandFinish	1 pcs		9/28/18	0.00	0.98	HandFinish4		MLC 12-12-15
240	QC	1 pcs		9/28/18	0.00	0.00	QC5		DAS DEC 12 2018
250	Packaging	1 pcs		9/28/18	0.00	0.00	Packaging1-3		DAS DEC 12 2018
260	QC	1 pcs		9/28/18	0.00	0.00	QC4		DAS DEC 12 2018
270	Packaging	1 pcs		9/28/18	0.00	0.00	Packaging3-1		DAS DEC 12 2018
275	DC	1 pcs		9/28/18	0.00	0.00	DC		DAS DEC 12 2018
280	QC21-FG	1 Ea		9/28/18	0.00	0.00	QC21		DAS DEC 12 2018

Part Op 110 - 1- Pick D2600-3 Bent 2- Deburr FWD and AFT ends, remove bending marks. Scribe batch# inside AFT end per dwg
Descriptions: D4168-2 3- Drill pilot holes for blade fitting bolt holes using DT8983. Start with 3/16", then open to 0.500" using center drill then ream holes using 0.500" reamer. PIN first side. Repeat process on second side. ***ENSURE PROPER POSITIONING FWD BEND MUST BE FACING UP WHEN DRILLING FIRST SIDE*** Drill pilot holes as per Dwg D4168 sheet 5 (D4168-2 details). Drill using drill Jig DT8150 & DT8863A for first side only DT8863B for second side (detail K) 4- Locate DT8329 off of blade fitting bolt holes and drill pilot holes for blade fitting, section R-R and open to 0.500" 5- Drill tow ring hole using DT9616 detail "J" 6- Drill most FWD wearplate hole using DT9678 locating of 66.54" hole 7- Open up holes of Detail J to 0.297" (total of 2 holes per side) +.201" (total of one hole per side) as per dwg D4168. 8- Weld D2744 Cap as per Dwg D4168 and QSI 004. Fill grooves in bend left from bending as per QSI 004 A/R Aluminum Rod batch: 138834 9- Grind welds flush as per Dwg D4168
160 - 1-Open up holes using hole saw of Detail L and ground handling to 0.625" (total of 8 holes per side) as per dwg D4168. 2-Open up holes using hole saw of Detail K to 0.750" (total of 4 holes per side) as per dwg D4168. 3- Open float hole to 0.500" using uni-bit (4 per side) and Run on wearplate holes to .375" 4 per side 4-Chamfer holes of Detail K,L, ground handling and float holes per dwg D4168 (welding instructions on sheet 9) 5-Deburr and blow out all chips from

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed:

Date:

Work Order update only ☐

Work Order: _____	_____	AGAINST DEPARTMENT/PROCESS			
Part No. _____	_____	Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐
NCR No. _____	_____	_____	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐
					Other ☐

Date :	Step #:	(QSI042) Approval
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Description Work Order



AS350/355 – Skidtube – Float w/ Heavy – Duty Wearplates
– RH

PART NO: D350 – 636 – 016

Serial No/Batch: S108324

Revision:

Operation:

Change No:

**Packaging
CHG006**

Mfg Date: 09/06/18

Job No: 182678

Completed By

Hand / Supervisor
Approval Verification

QC / QA Coordinator
Approval

Root Cause			
Environment ☐	No Re-verification ☐	Pressure ☐	Positioned Wrong ☐
Design ☐	Operator ☐	Bending ☐	Outside Dimensions ☐
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	Over/Under tolerance ☐
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Part Incorrect ☐
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Part Lost/Missing ☐
Material ☐	Use for Testing ☐	Cuffs ☐	Part Moved ☐
Internal Transport ☐	Poor Information ☐	Crushing ☐	Drawing ☐
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Finish ☐
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Misread ☐
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Turning Sequence ☐
Past Expiry Date ☐	Manufacturing Process ☐		
Misidentified ☐	Past Due ☐	OTHER : _____	

inside of tube 6- Prepare tube for welding, remove alodine as required. 7-Bond web D2739 in place as per QSI 015, let cure for 12hrs. A/R Sikaflex-291 batch: 138543 exp. date: 19/03/06 ***ATTN: USE I-BEAM LOCATION AID (BLADE FITTING)*** 8- Weld spacers D3490-1, D3490-3 and D2743 as per dwg D4168 & QSI004 (welding instructions on sheet 8) A/R Aluminum Rod batch: 138673 9- At section AP-AP drill out x-bolt spacer to 0.404" 10-Grind welds flush as per Dwg D4168 11-Spot face ground handling holes section (total of 4 places per side) as per dwg D4168 12-C'bore section CH-CH. ADJUST TOOLING AS REQUIRED. VERF BY: MGG 13- Deburr holes, ensure tube is free of all scratches before sending to paint. ***** FOR DELUXE SKIDTUBE IF APPLICABLE DRILL TOW RING HOLE IN TUBE ***** REF TO W/O BATCH: _____

180 - ***VERIFY C'BOARD IS GOOD***

190 - Re-alodine tube as per QSI 005 section 4.1.2.1 do not acid etch.

200 - 1- PRIME AS PER DWG AND QSI 005 4.2 PRIMER PRC DESOTO 515X349 BATCH: POO11713 2- PAINT WHITE AS PER DWG AND QSI 005 4.2 PAINT BATCH: _____

210 - Inspect for foreign object per QSI 024

230 - 1- Install inserts as per Dwg D4168 2-Inspect for Foreign Objects 3-Install blade fitting D3488-041, wearshoes and ground handling hardware as per dwg D4168 SIKA FLEX 241 BATCH: 11138443 EXP DATE: 14-3

4-assemble o'ring to plug as per dwg D3492 and apply o'ring lube A/R 55-o'ring lube batch: 11138947 5-Coat all exposed fasteners with "LPS Procyon" batch: 4133690

250 - If making a D350-636-216 pick kit will only requires: 1 X AN3C37A 1 X AN3C34A 1 X AN3C42A 2 X D3493-1

260 - *****ensure antiseize is on AN8C21A bolts*****

270 - Identify and pack for shipping as per PPPD350-636-016 Location : FG071

275 - record fwd angle: 89.8 Photocopy blue file and type labels per PPP D350-636-016 CHG 005

Job BOM

Part / Item	Component Name	Quantity	Operation	Container
D2600-3-BENT-RH	Extrusion Bent RH	1 Ea (1 ea)	90-Start up Operation	5081485
D2744	Cap	1 Ea (1 ea)	90-Start up Operation	5060499
D2739	350 I-Beam	1 Ea (1 ea)	160-Skidtubes	5080895
D2743	Crossbolt Spacer 0	8 Ea (8 ea)	160-Skidtubes	5122933
D3490-1	Cross Bolt Spacer	4 Ea (4 ea)	160-Skidtubes	5082748
D3490-3	Cross Bolt Spacer	4 Ea (4 ea)	160-Skidtubes	5107862
ALS4-1032-225	Rivnut	4 Ea (4 ea)	230-HandFinish	5058138
AN3C34A	Bolt	1 Ea (1 ea)	230-HandFinish	5117121
AN3C36A	Bolt	4 Ea (4 ea)	230-HandFinish	FM136658-1
AN3C6A	Bolt	4 Ea (4 ea)	230-HandFinish	5049457
AN6C44A	Bolt	4 Ea (4 ea)	230-HandFinish	5066337
AN8C35A	Bolt	1 Ea (1 ea)	230-HandFinish	5090797
D2745	Bushing	8 Ea (8 ea)	230-HandFinish	5091818
D3488-041	Blade Fitting RH	1 Ea (1 ea)	230-HandFinish	X 5128525
D3492-1	Plug	8 Ea (8 ea)	230-HandFinish	5167239
D3492-3	Plug	8 Ea (8 ea)	230-HandFinish	5107030
D3631-1	Washer	8 Ea (8 ea)	230-HandFinish	5058405
D3873-1	Bushing	7 Ea (7 ea)	230-HandFinish	5117551
D4154-041	Wearplate Assembly	1 Ea (1 ea)	230-HandFinish	5103294
D4170-1	Bushing 10	4 Ea (4 ea)	230-HandFinish	5019233
D4171-1	Bushing	1 Ea (1 ea)	230-HandFinish	5061056
MS21043-3	Nut	5 Ea (5 ea)	230-HandFinish	5063542
MS21043-6	Nut	4 Ea (4 ea)	230-HandFinish	5058146
MS21083C8	Nut	1 Ea (1 ea)	230-HandFinish	5090633
NAS1149C0332R	Washer	4 Ea (4 ea)	230-HandFinish	5089465
NAS1149C0363R	Washer	9 Ea (9 ea)	230-HandFinish	5017107
NAS1149C0832R	Washer	1 Ea (1 ea)	230-HandFinish	5076017-2
NAS1515H3L	Washer	4 Ea (4 ea)	230-HandFinish	5083555
NAS1611-010	O-Ring	8 Ea (8 ea)	230-HandFinish	5106747
NAS1611-013	O-Ring	8 Ea (8 ea)	230-HandFinish	5057659
AN3C37A	Bolt	1 Ea (1 ea)	250-Packaging	5064011
AN3C42A	Bolt	1 Ea (1 ea)	250-Packaging	5041523
AN8C21A	Bolt	2 Ea (2 ea)	250-Packaging	5099514
D2741	Replacement Blade	1 Ea (1 ea)	250-Packaging	5068565
D3493-1	Washer	2 Ea (2 ea)	250-Packaging	5125873
MS21083C8	Nut	2 Ea (2 ea)	250-Packaging	5104046
NAS1149D0863J	Washer	2 Ea (2 ea)	250-Packaging	5082298

Job Allocations

Operation	Component Part	Required	Inventory	Allocated
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DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE



QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date :	Step #:	QTY Effective :		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition		Completed By	
				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐			
OTHER : _____					

90-Start up Operation	D2600-3-BENT-RH	1	9	0
	D2744	1	43	0
160-Skidtubes	D2739	1	18	0
	D2743	8	55	0
	D3490-1	4	91	0
	D3490-3	4	14	0
230-HandFinish	ALS4-1032-225	4	2,304	0
	AN3C34A	1	24	0
	AN3C36A	4	517	0
	AN3C6A	4	272	0
	AN6C44A	4	174	0
	AN8C35A	1	54	0
	D2745	8	163	0
	D3488-042	1	10	0
	D3492-1	8	88	0
	D3492-3	8	133	0
	D3631-1	8	587	0
	D3873-1	7	38	0
	D4154-041	1	5	0
	D4170-1	4	18	0
	D4171-1	1	15	0
	MS21043-3	5	1,055	0
	MS21043-6	4	222	0
	MS21083C8	1	211	0
	NAS1149C0332R	4	6,066	0
	NAS1149C0363R	9	193	0
	NAS1149C0832R	1	411	0
	NAS1515H3L	4	527	0
	NAS1611-010	8	213	0
	NAS1611-013	8	170	0
250-Packaging	AN3C37A	1	63	0
	AN3C42A	1	26	0
	AN8C21A	2	106	0
	D2741	1	85	0
	D3493-1	2	41	0
	MS21083C8	2	211	0
	NAS1149D0863J	2	131	0

Part Specifications

Specifications could not be found.

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date :	Step #:	QTY Effective :		MRB (QSI042) Approval	
Description Work Order Deviation			Disposition		
			Completed By		
			Lead hand / Supervisor Approval Verification		
			QC / QA Coordinator Approval		
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐			
OTHER : _____					

QTY -041	QTY -042	QTY -043	QTY -044	PART NUMBER	DESCRIPTION
X				D4168-041	350 SKIDTUBE ASSEMBLY, LH
	X			D4168-042	350 SKIDTUBE ASSEMBLY, RH
		X		D4168-043	350 SKIDTUBE ASSEMBLY, LH
			X	D4168-044	350 SKIDTUBE ASSEMBLY, RH
1	1	1	1	D2739	WEB
8	8	8	8	D2743	SPACER
1	1	1	1	D2744	CAP
8	8	8	8	D2745	BUSHING
1		1		D3488-041	BLADE FITTING, LH
	1		1	D3488-042	BLADE FITTING, RH
4	4	4	4	D3490-1	SPACER
4	4			D3490-3	SPACER
		4	4	D3490-5	SPACER
8	8	8	8	D3492-041	PLUG ASSEMBLY
8	8			D3492-043	PLUG ASSEMBLY
		8	8	D3492-045	PLUG ASSEMBLY
8	8	8	8	D3631-1	WASHER
7	7	7	7	D3873-1	BUSHING
1	1	1	1	D4154-041	WEARPLATE ASSEMBLY
1				D4168-1	SKIDTUBE WELDMENT, LH
	1			D4168-2	SKIDTUBE WELDMENT, RH
		1		D4168-3	SKIDTUBE WELDMENT, LH
			1	D4168-4	SKIDTUBE WELDMENT, RH
4	4	4	4	D4170-1	SPACER
1	1	1	1	D4171-1	BUSHING
4	4	4	4	ALS4-1032-225	INSERT
4	4	4	4	AN3C6A	BOLT
1	1	1	1	AN3C34A	BOLT
4	4	4	4	AN3C36A	BOLT
4	4	4	4	AN6C44A	BOLT
1	1	1	1	AN8C35A	BOLT
9	9	9	9	AN96C10	WASHER (OR NAS1149C0363R)
4	4	4	4	AN96C10L	WASHER (OR NAS1149C0332R)
1	1	1	1	AN96C816L	WASHER (OR NAS1149C0832R)
5	5	5	5	MS21043-3	NUT
4	4	4	4	MS21043-6	NUT
1	1	1	1	MS21083C8	NUT
4	4	4	4	NAS1515H3L	WASHER

GENERAL NOTES:

- MATERIAL: MAKE D4168-1/-2/-3/-4 FROM D2600-3 EXTRUSION (INITIAL LENGTH = 120.0).
- FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1 PRIOR TO INSTALLING D2739 WEB.
STANDARD: PRIME (REF. 4.2.1.3.3) AND PAINT WHITE PER DART QSI 005 4.2
B. OPTIONAL: POWDER COAT WHITE (REF. 4.3.5.1) PER DART QSI 005 4.3
BLACK ANTI-SKID PAINT AS INDICATED TO 1.0" ABOVE SKIDTUBE CENTER-LINE PER DART 005 4.4 (OPTIONAL).
- TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- UNITS: INCHES UNLESS OTHERWISE NOTED
- BREAK SHARP EDGES: N/A
- IDENTIFICATION: N/A
- WEIGHT: D4168-041/-042/-043/-044 = 32.3 LBS
- WELD PER DART QSI 004
- FINAL CONFIGURATION SHOULD HAVE THE FOLLOWING MINIMUM MECHANICAL PROPERTIES:
MINIMUM YIELD TENSILE STRENGTH = 35 KSI
MINIMUM ULTIMATE TENSILE STRENGTH = 38 KSI
- COAT ALL EXPOSED FASTENERS WITH LPS LABORATORIES "LPS PROCYON" AFTER FINAL ASSEMBLY, CLEAN EXCESS OFF
FINISH WITH MEK DEGREASER.
- SPACER AND PLUG INSTALLED SAME AS SECTION AJ-AJ EXCEPT HORIZONTAL
- SPACER AND PLUG INSTALLED SAME AS SECTION AP-AP EXCEPT HORIZONTAL

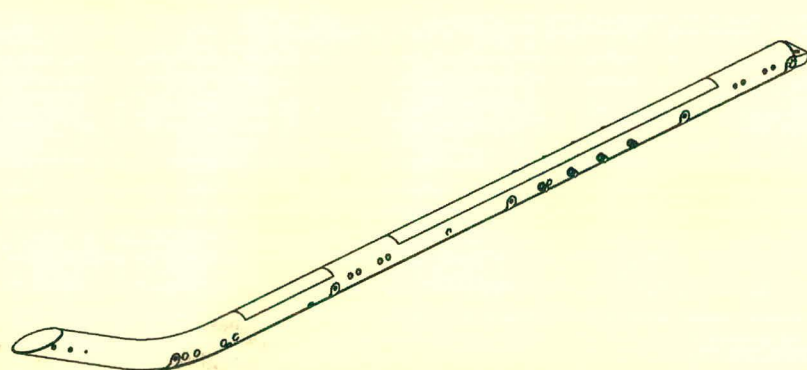
SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER

NO. 182678 M5
(180873)

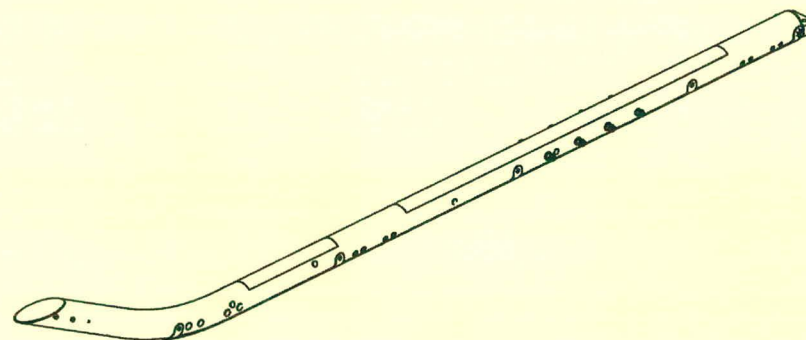
RELEASED
2013-08-13
MP

B	ADD VIEW TO CONTROL FWD BEND ORIENTATION (ZIN D-1-41-51-61-71); UPDATED FINISH OPTIONS. REASON: PAR13-276 AND NCR13-2757	MB	13.07.11
A	NEW ISSUE	SC	10.08.09
REV.	DESCRIPTION	BY	DATE
DESIGN	SC		
DRAWN	JP		
CHECKED	JP		
MFG. APPR.	JP		
APPROVED	JP		
DE APPR.	JP		
DATE	13.07.11		

DART AEROSPACE USA, INC. KENT, WA	
DRAWING NO. D4168	REV. B SHEET 1 OF 11
TITLE 350 SKIDTUBE ASSEMBLY	SCALE NTS
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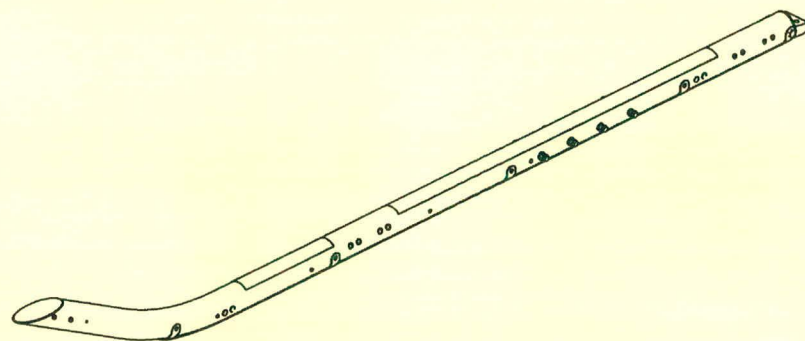
D4168-041 350 SKIDTUBE ASSEMBLY, LH



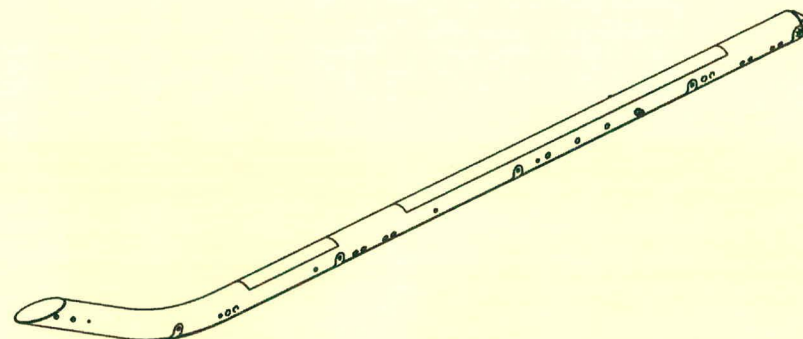
D4168-042 350 SKIDTUBE ASSEMBLY, RH

RELEASED
2013-08-13
WV

DESIGN	SC	DART AEROSPACE USA, INC.	
DRAWN	<i>[Signature]</i>	KENT, WA	
CHECKED	<i>[Signature]</i>	DRAWING NO.	REV. B
MFG. APPR.	<i>[Signature]</i>	D4168	SHEET 2 OF 11
APPROVED	<i>[Signature]</i>	TITLE	SCALE
DE APPR.	<i>[Signature]</i>	350 SKIDTUBE ASSEMBLY	NTS
DATE	13.07.11	COPYRIGHT © 2010 BY DART AEROSPACE USA, INC. THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.	



D4168-043 350 SKIDTUBE ASSEMBLY, LH

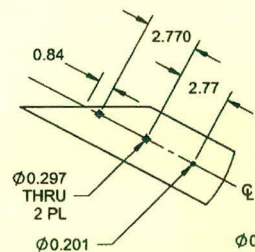
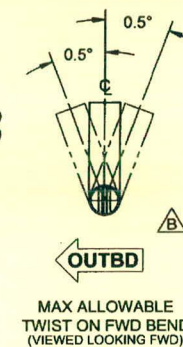


D4168-044 350 SKIDTUBE ASSEMBLY, RH

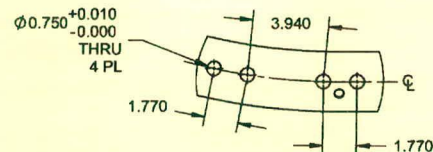
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2013-08-13
MD

DESIGN	SC	DART AEROSPACE USA, INC.	
DRAWN		KENT, WA	
CHECKED		DRAWING NO.	REV. B
MFG. APPR.		D4168	SHEET 3 OF 11
APPROVED		TITLE	SCALE
DE APPR.		350 SKIDTUBE ASSEMBLY	NTS
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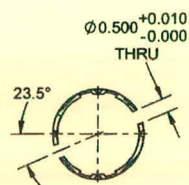
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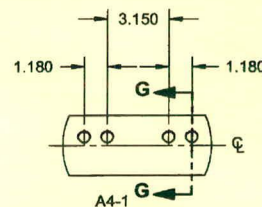
DETAIL A
SCALE 2X



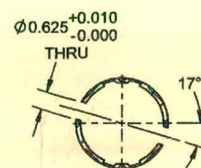
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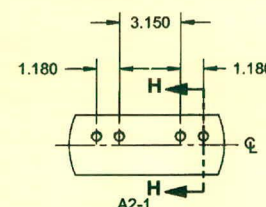
SECTION E-E
SCALE 3X, 2 PL



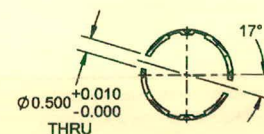
DETAIL C
SCALE 2X



SECTION G-G
SCALE 3X, 4 PL



DETAIL D
SCALE 2X



SECTION H-H
SCALE 3X, 4 PL

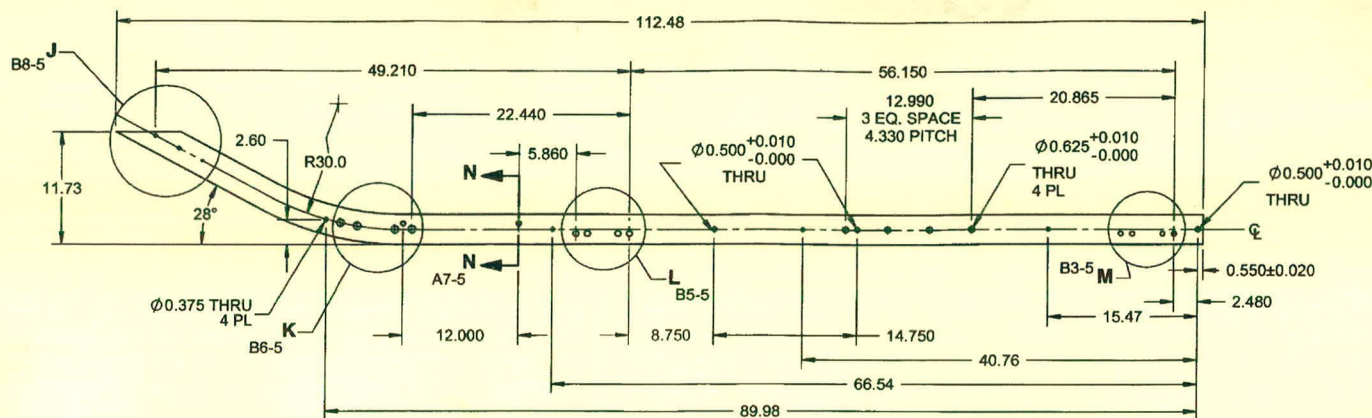
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DRAWN
CHECKED
MFG. APPR.
APPROVED
DE APPR.
DATE 13.07.11

DART AEROSPACE USA, INC.
KENT, WA

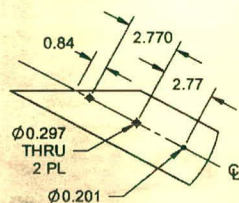
DRAWING NO.
D4168
TITLE
350 SKIDTUBE ASSEMBLY

REV. A
SHEET 4 OF 11
SCALE
NTS

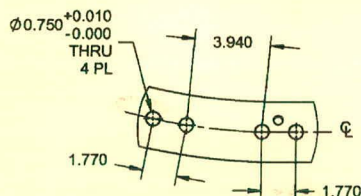
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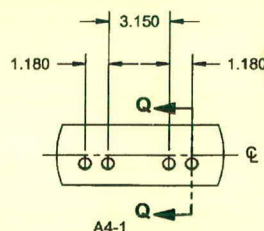
D4168-2 RH SKIDTUBE



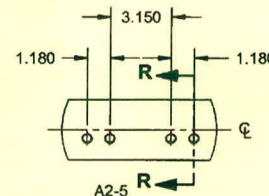
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SCALE 2X



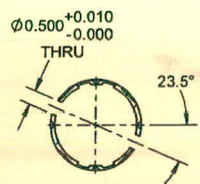
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SCALE 2X



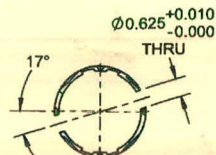
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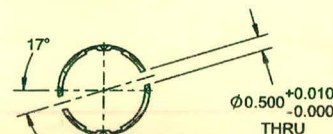
DETAIL M
SCALE 2X



SECTION N-N
SCALE 3X, 2 PL



SECTION Q-Q
SCALE 3X, 4 PL



SECTION R-R
SCALE 3X, 4 PL

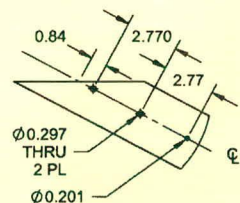
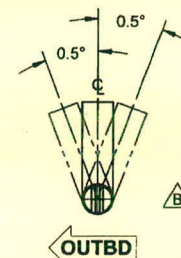
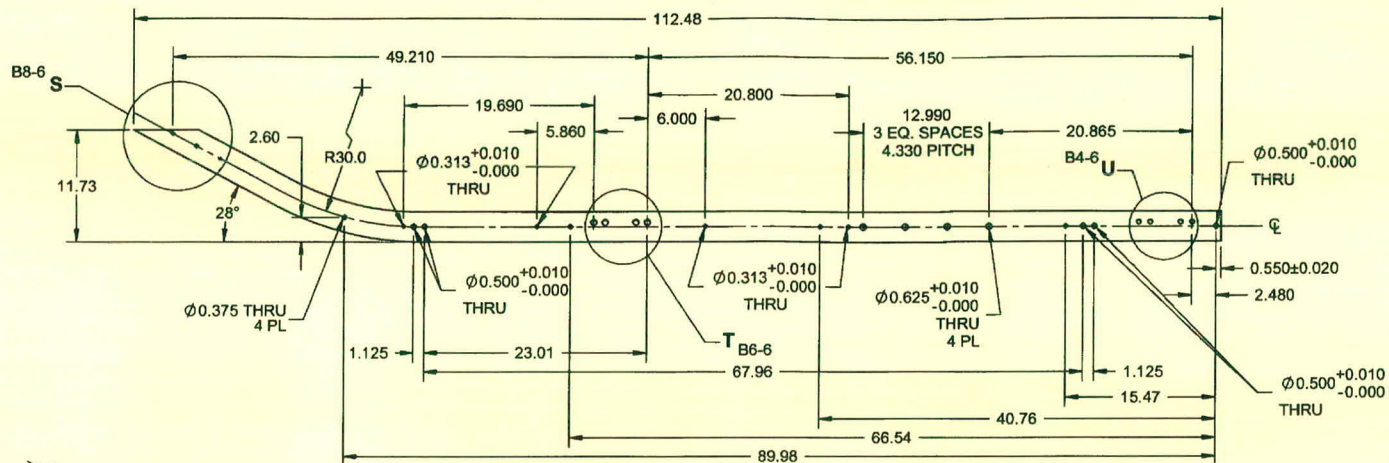
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2013-08-13
JW

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DRAWN
CHECKED
MFG. APPR.
APPROVED
DE APPR.
DATE 13.07.11

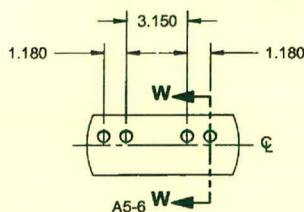
DART AEROSPACE USA, INC.
KENT, WA

DRAWING NO. **D4168**
TITLE **350 SKIDTUBE ASSEMBLY**
REV. B
SHEET 5 OF 11
SCALE
NTS

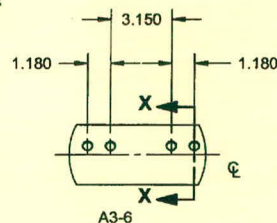
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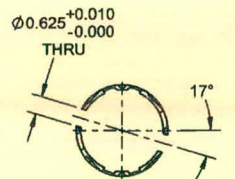
DETAIL S
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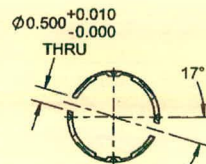
DETAIL T
SCALE 2X



DETAIL U
SCALE 2X



SECTION W-W
SCALE 3X, 4 PL



SECTION X-X
SCALE 3X, 4 PL

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2013-08-13

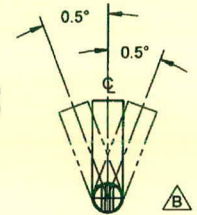
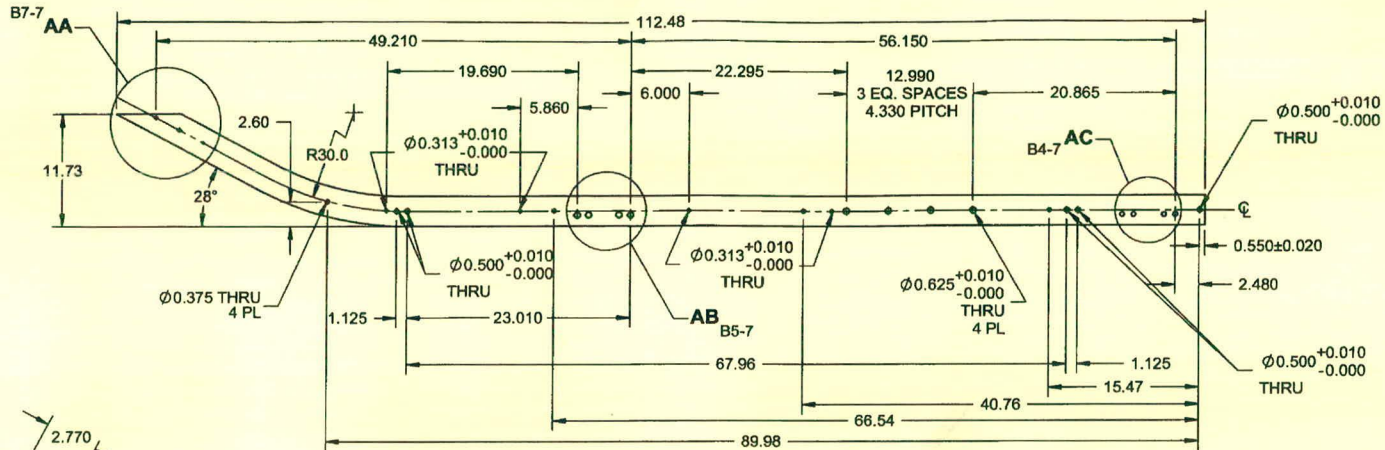
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CHECKED
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KENT, WA

DRAWING NO.
D4168
TITLE
350 SKIDTUBE ASSEMBLY
REV. B
SHEET 8 OF 11
SCALE
NTS

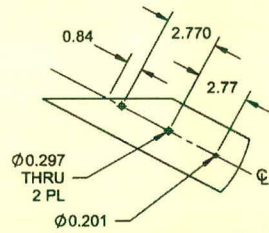
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8 7 6 5 4 3 2 1

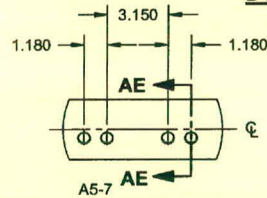


MAX ALLOWABLE
TWIST ON FWD BEND
(VIEWED LOOKING FWD)

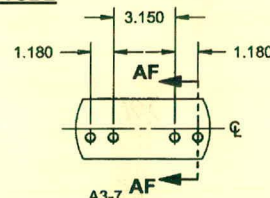
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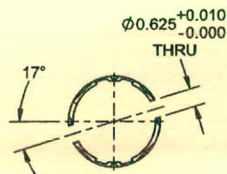
DETAIL AA
D7-7
SCALE 2X



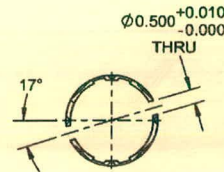
DETAIL AB
C4-7
SCALE 2X



DETAIL AC
D3-7
SCALE 2X



SECTION AE-AE
B6-7
SCALE 3X, 4 PL

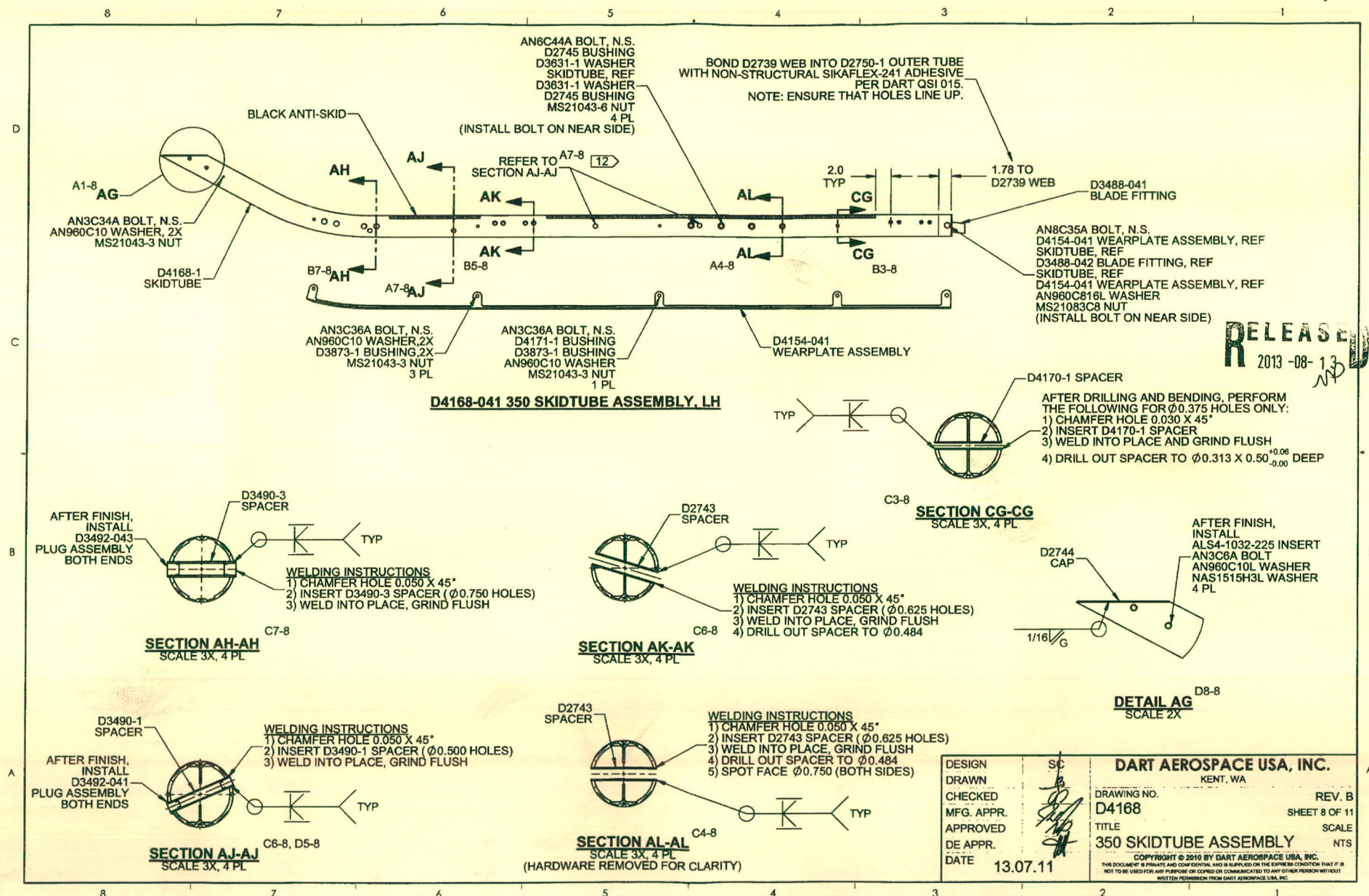


SECTION AF-AF
B4-7
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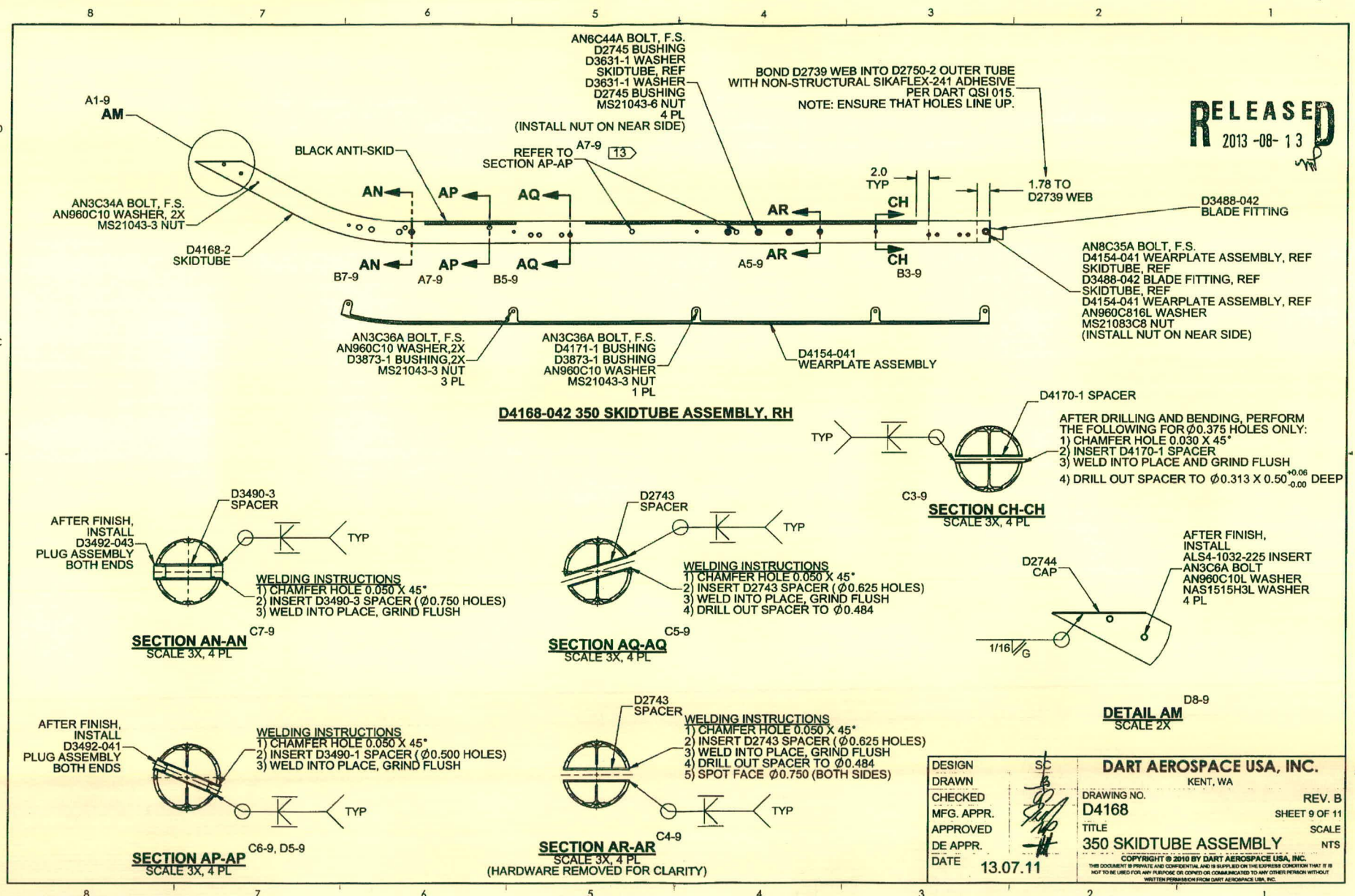
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2013-08-13

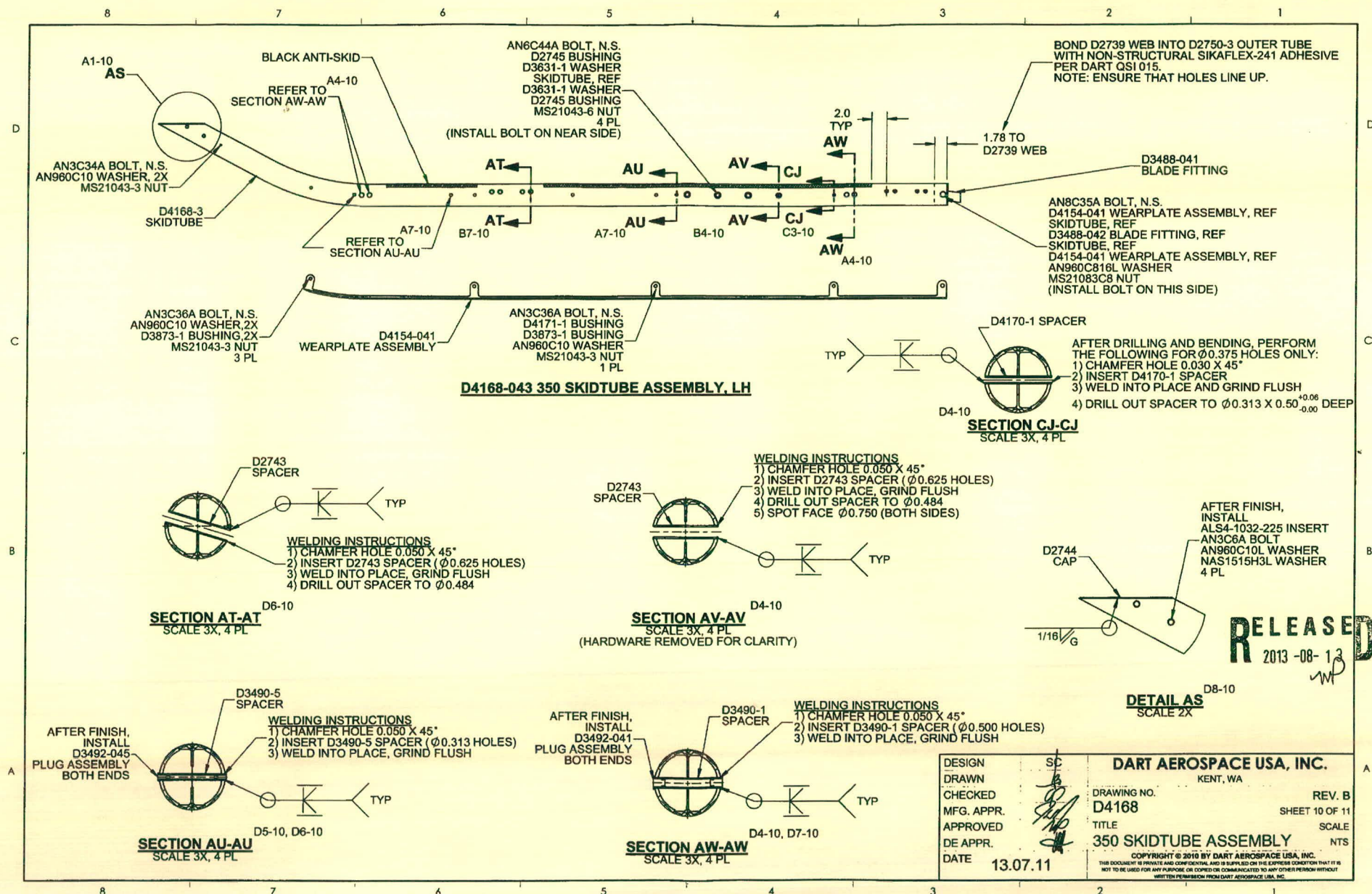
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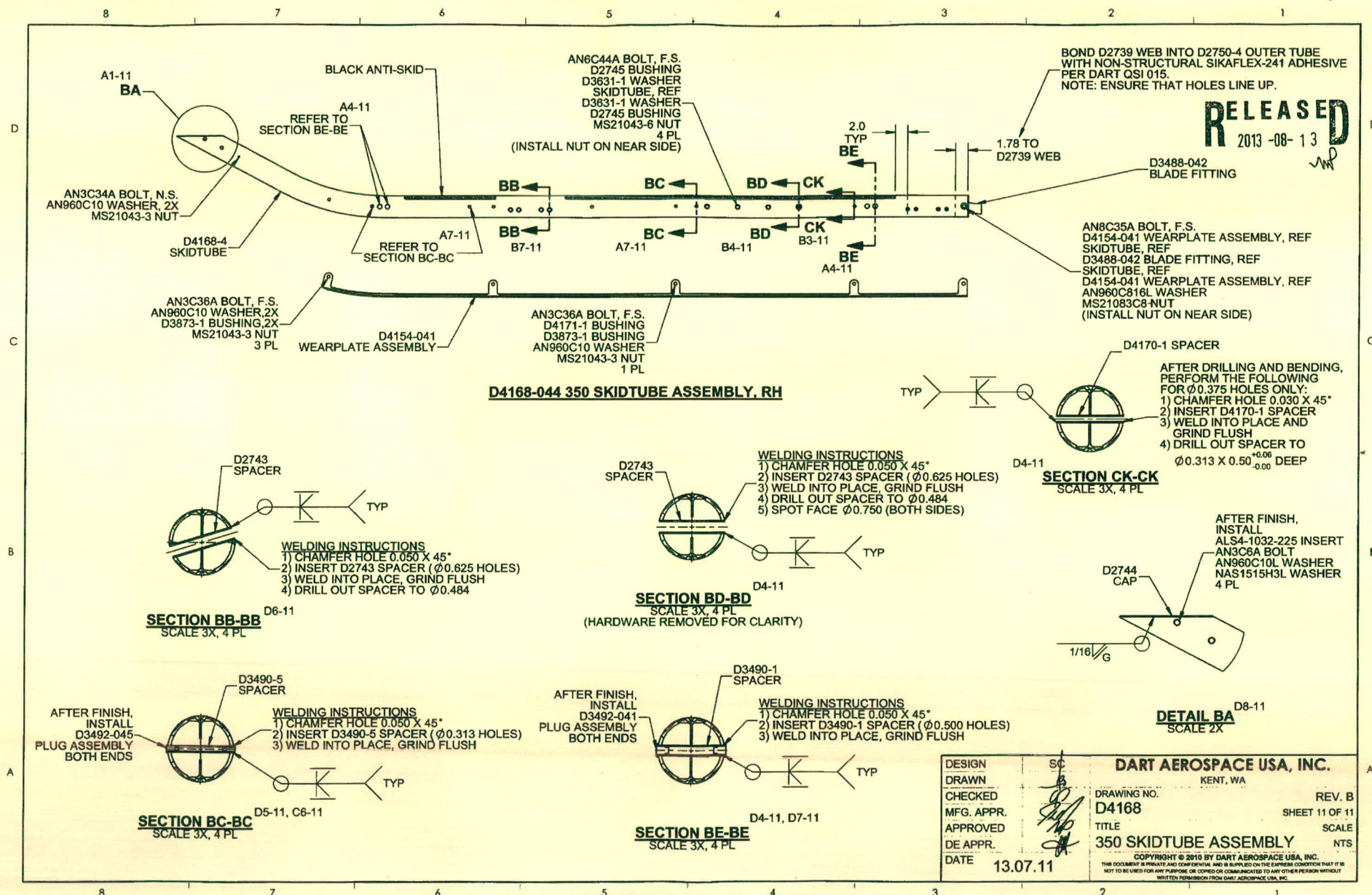
8 7 6 5 4 3 2 1



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2013-08-13







SPECIFICATION CONTROL DRAWING

D2600-X-XXX EXTRUSION

NOTES:

1) MATERIAL: 6061-T6 ALUMINUM PER QQ-A-200/8 OR AMS-QQ-A-200/8 OR ASTM B221

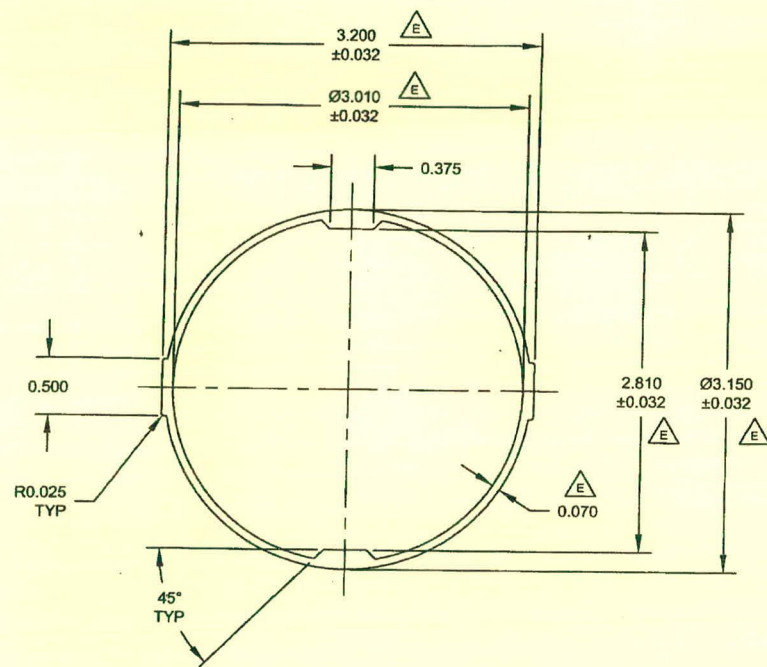
MINIMUM TENSILE YIELD STRENGTH = 35 KSI
MINIMUM ULTIMATE TENSILE STRENGTH = 40 KSI
MINIMUM ELONGATION = 8%

A SAMPLE FROM EACH BATCH WILL BE PULL TESTED TO ASTM STANDARD B221 BY AN APPROVED TESTING FACILITY TO ENSURE THAT THE BATCH MEETS THE ABOVE MINIMUM MECHANICAL PROPERTIES

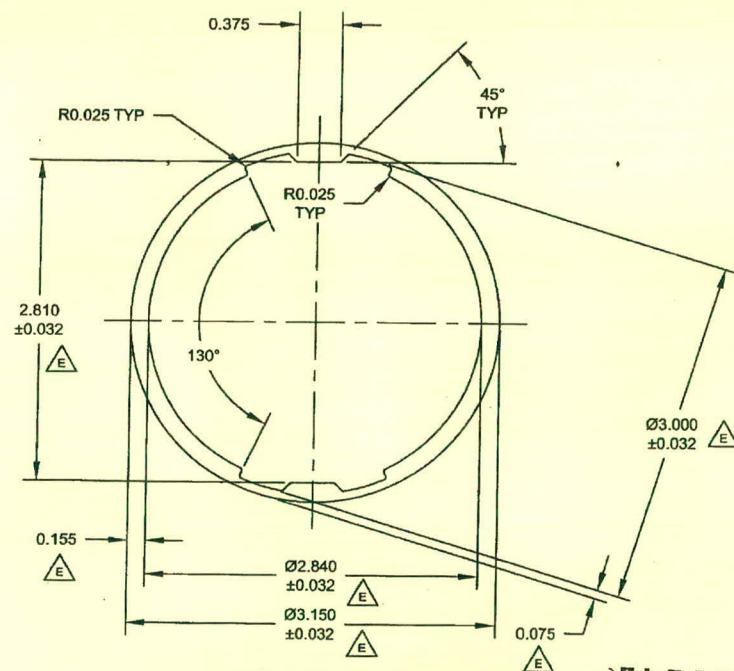
- 2) FINISH: N/A
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: IDENTIFY WITH DART P/N & B/N PER DART QSI 044 6.1 (FINE POINT PERMANENT INK MARKER)
- 7) WEIGHT: D2600-1 = 0.078 lb/in, D2600-3 = 0.130 lb/in, D2600-5 = 0.045 lb/in, D2600-7 = 0.091 lb/in
- 8) NO TOOLING MARKS
- 9) FOR D2600-1, PART NUMBER IS D2600-1-XXX WHERE XXX IS CUT LENGTH (EX. D2600-1-160 IS 160" LONG).
D2600-1 EXTRUSION MANUFACTURED FROM:
- CARADON INDALEX DIE # MH-18870
- SIGNATURE ALUMINUM (BON-L) DIE # 897121
- 10) FOR D2600-3, PART NUMBER IS D2600-3-XXX WHERE XXX IS CUT LENGTH (EX. D2600-3-120 IS 120" LONG).
D2600-3 EXTRUSION MANUFACTURED FROM:
- CARADON INDALEX DIE # MH-18859
- SIGNATURE ALUMINUM (BON-L) DIE # 897122
- 11) FOR D2600-5, PART NUMBER IS D2600-5-XXX WHERE XXX IS CUT LENGTH (EX. D2600-5-108 IS 108" LONG).
D2600-5 EXTRUSION MANUFACTURED FROM:
- CARADON INDALEX DIE # MS-18871
- 12) FOR D2600-7, PART NUMBER IS D2600-7-XXX WHERE XXX IS CUT LENGTH (EX. D2600-7-125 IS 125" LONG).
D2600-7 EXTRUSION MANUFACTURED FROM:
- CARADON INDALEX DIE # MS-18872

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2012-01-11

E	REFORMAT DWG: ALL DIMS & TOL. UPDATE TO MATCH MFG DIE DWGS; ADD ASTM B221 SPEC (D8-1)	CP	11.10.18
D	INCREASE MIN. UTS TO 40 KSI	DS	98.08.20
C	ADD D2600-3, UPDATE D2600-1 WIDTH, ADD DIE NO.	DS	98.04.16
B	CHANGE MATERIAL SPEC.	DS	97.09.09
A	NEW ISSUE	DS	97.01.21
REV.	DESCRIPTION	BY	DATE
DESIGN	4	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	9		
CHECKED	AJS	DRAWING NO.	REV. E
MFG. APPR.	2	D2600	SHEET 1 OF 3
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DE APPR.	11	EXTRUSION	NTS
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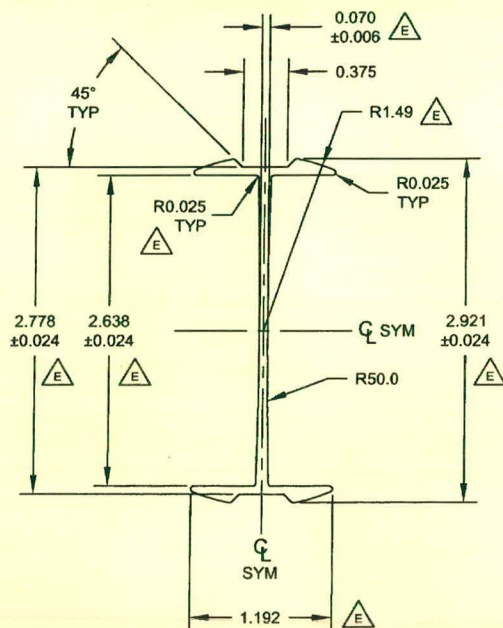
D2600-1 EXTRUSION



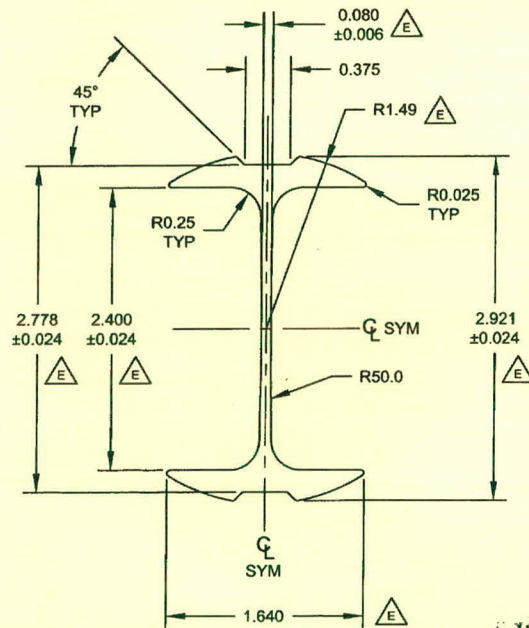
D2600-3 EXTRUSION

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2012-01-10

DESIGN	4	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
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CHECKED	ASS	DRAWING NO.	REV. E
MFG. APPR.	E	D2600	SHEET 2 OF 3
APPROVED	1/10	TITLE	SCALE
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D2600-5 EXTRUSION



D2600-7 EXTRUSION

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JWD

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CHECKED	ASS	DRAWING NO.	REV. E
MFG. APPR.	BL	D2600	SHEET 3 OF 3
APPROVED	#	TITLE	SCALE
DE APPR.	#	EXTRUSION	NTS
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Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

PURCHASE ORDER **PO041713**

Supplier: ATE003-VC
Atelier Debosselage
358 Principale
Calumet
QC
J0V 1B0 Canada
Phone: 819 242 5633

PO No: PO041713
PO Date: 11/13/18
Due Date: 11/16/18
Purchase Order
Revision:
Revision Date:
Ship-To Contact: Phone:

Ship To: 1270 Aberdeen Street
Hawkesbury
ON
K6A 1K7 Canada
Phone: 613-632-5200

Via: Ground
Pynt Terms: Net 30
Freight Terms:
Special Comments:

Items

Line Item	Job	Part	Description	Status	Account	Due Date	Order Quantity	Received Quantity	Balance	Unit Price (CAD)	Extended Price
1	184225	D350-636-011	1- PRIME AS PER DWG AND QSI 005 4.2 PRIMER PRC DESOTO 515X349 BATCH: _____ 2- PAINT WHITE AS PER DWG AND QSI 005 4.2 PAINT BATCH: _____	Firmed	-	11/16/18	1 pcs	0 pcs	1 pcs	\$325.00/pcs	\$325.00
2	183650	D135-751-011	1- Apply Primer as per QSI 005 4.2.1.3.3 and dwg A/R Primer Batch: _____ 2- Paint two coats of White paint as per QSI 005 4.2 and dwg A/R Paint Batch: _____	Firmed	-	11/16/18	1 pcs	0 pcs	1 pcs	\$325.00/pcs	\$325.00
3	182678	D350-636-016	1- PRIME AS PER DWG AND QSI 005 4.2 PRIMER PRC DESOTO 515X349 BATCH: _____ 2- PAINT WHITE AS PER DWG AND QSI 005 4.2 PAINT BATCH: _____	Firmed	-	11/16/18	1 pcs	0 pcs	1 pcs	\$325.00/pcs	\$325.00
4	185412	D350-636-013	1- PRIME AS PER DWG AND QSI 005 4.2 PRIMER PRC DESOTO 515X349 BATCH: _____ 2- PAINT WHITE AS PER DWG AND QSI 005 4.2 PAINT BATCH: _____	Firmed	-	11/16/18	1 pcs	0 pcs	1 pcs	\$325.00/pcs	\$325.00



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

PURCHASE ORDER **PO041713**

Items

Line Item	Job	Part	Description	Status	Account	Due Date	Order Quantity	Received Quantity	Balance	Unit Price (CAD)	Extended Price
5	184892	D350-636-015	1- PRIME AS PER DWG AND QSI 005 4.2.1.3.3 PRIMER PRC DESOTO 515X349 BATCH: _____ 2- PAINT WHITE AS PER DWG AND QSI 005 4.2 PAINT BATCH: _____	Firmed	-	11/16/18	1 pcs	0 pcs	1 pcs	\$325.00/pcs	\$325.00

Grand Total: \$1,625.00

Order Notes

Procurement Quality Clauses
A005 right of entry
A012 chemical and physical test report
A016 personnel qualification
A017 raw material identification (as applicable)

A022 Apical Processing
A024 process certifications
A026 certification of material conformance

A041 quality management system
A042 dart notification by supplier
A043 retention of quality documents

A048 counterfeit parts avoidance, detection, mitigation and disposition program

A049 supplier awareness

Terms & Condition of Purchasing(Suppliers) and Procurement Quality Clauses are an integral part of our AS9100 requirements. To learn in detail, please visit www.dartaerospace.com for further explanation.

Plex 11/14/18 9:19 AM dart.tsimiklis.chrisoula

